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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/667,779	09/22/2003	Michael O'Connor	ITL.0798DIUS (P12505D)	9551

7590 04/06/2004

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EXAMINER

ALAVI, ALI

ART UNIT	PAPER NUMBER
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2875

DATE MAILED: 04/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/667,779

Applicant(s)

O'CONNOR ET AL.

Examiner

Ali Alavi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9, 10, 12-15 and 30 is/are pending in the application.
- 4a) Of the above claim(s) 10, 15 and 30 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 9 and 14 is/are rejected.
- 7) ☐ Claim(s) 12 and 13 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Applicant's pre-amendment filed on 9/22/03 has been entered. Accordingly, claims 1-8, 11, 16-29, and 31-36 have been cancelled. Claim 9 has been amended. Claims 9, 10, 12-15, and 30 are pending in this application.
2. Applicants have elected species V (fig. 5) in this application. However, claims 10, and 15 believed to belong to species 2 and 4 respectively (ref. 10/086,936). Therefore, claims 10 and 15 are withdrawn from consideration in this application.

Claim Objections

3. Claim 30 is objected to because of the following informalities: Claim 30 is objected to because it is depended on a canceled claim 23. Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 9 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hannah (US Pat. No 6,362,920).

Regarding claim 9, Hannah discloses an apparatus comprising: a reflector (12, fig. 1), a light source (16, fig. 1) for producing light of a first polarization (22) and light of a second polarization, a linear polarizer (18, fig. 1) which substantially passes

light of the first polarization and substantially reflects light of the second polarization, a phase retarder (14, fig. 1) disposed between the reflector and the linear polarizer, and wherein the light source is disposed between the phase retarder and the linear polarizer. The difference between the claimed invention and the Hannah reference is circular polarizer vs. linear polarizer. However, Hannah teaches that if the circularly polarized light is transmitted through a phase retarder (quarter wavelength) then linearly polarized light will exit in the direction of linear polarization. Therefore, it would have been obvious to an ordinary skill in the art at the time the invention was made to substitute a circular polarizer with a linear polarizer since both do function in the same manner as taught by Hannah (col. 2, lines 30-37).

Regarding claim 14, Hannah discloses the claimed invention as described above in claim 9, and further discloses that the phase retarder, the reflector, and the linear polarizer are of substantially planar shape (see fig. 1).

Allowable Subject Matter

5. Claims 12 and 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claim 12 is objected to because it recites in part "...wherein the light source comprises a substantially spherical light cavity having a reflective inner surface, and having a first window and a second window through the reflective inner surface, the first and second windows being disposed at substantially opposite sides of the light cavity." This limitation was not

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shown or taught in the prior art of record. Claim 13 is objected to because being depended on claim 12.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Steinle (US Pat. No 6,080,980) discloses an optic for reducing one dimension of a folded optical path. Budd et al (US Pat. No 6,341,038) disclose an apparatus for polarization conversion having a linear polarizer, a light source, and a reflector. Ferrell (US Pat. No 5,618,102) discloses a plasma discharge lamp.

7. Any inquiry concerning this communication or earlier communication from the examiner should be directed to Ali Alavi whose telephone number is (571) 272-2365. The examiner can normally be reached between 7:00 A.M. to 5:30 P.M. Tuesday to Friday. If attempts to reach the examiner by phone are unsuccessful, the examiner's supervisor, Sandy O'Shea can be reached at (571) 272-2378 or you may fax your inquiry to the **Central Fax** at (703) 872-9306.

Ali Alavi

A handwritten signature in black ink, appearing to read 'Ali Alavi', with a long horizontal flourish extending to the right.

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